

Osteoporosis Revisited In 2007

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*Gone are the days, when calcium deficiency used to cause osteoporosis.
Today, we need to preach that magnesium deficiency causes osteoporosis.*

Due to the over cultivation of land and depleted soil conditions the nutritional value of the food produced has gone down substantially during the recent years. It is sad state of affairs (and it will certainly alarm most people) that during the course of the last 57 years the Nutrition in food is approximately 25% of what it originally was in 1950. The unfortunate part is that, there are no standards set up as yet, to certify the actual nutritional value of our groceries for the guidance of consumers. Today, everyone talks about organic food, but this, still does not guarantee its nutritional value or make it nutritionally superior. Organic may be healthy, because no pesticides are used, but that does not mean it is Nutritious.¹

This shortage of nutrition in the food has resulted in a massive malnutrition during the last decade. Majority of the population today, immaterial of their social or economic background, suffers from malnutrition and would benefit from multivitamin and mineral supplements. Looking for a perfectly nutritionally balanced body today, is like looking for a needle in a hay stack. The proper use of good quality synergistically balanced multivitamin / mineral supplements can result in higher mental and physical energy levels, assist in weight loss, can make one feel and look years younger than ones physical age and help reduce the severity of numerous chronic ailments. This is the only solution available today to combat this problem of malnutrition.

Minerals need to be absorbed and most importantly retained in the human body for proper and effective therapeutic action which results in repair and healing of the body, including its organs. Organic compounds of minerals like calcium ascorbate, calcium orotate, calcium lactate are better absorbed and retained in the human body as compared to calcium carbonate which is poorly absorbed and readily excreted by the human body. When selecting mineral supplements one should therefore avoid selecting inorganic compounds like calcium carbonate (even if they are from natural sources like oyster shells), ferrous (iron) sulfate, zinc sulfate, etc. as their absorption and retention in the body is very poor. Hence, these can only be used for prophylactic purposes and not for any serious therapeutic effect.

This nutritional deficiency that we see today, can be reduced by proper therapeutic doses of nutritional supplements, properly administered at Intracellular Levels. This means that, prescription strength therapeutic doses of nutrition must be administered to penetrate the cell wall and reach the center of the cell where it is really required. This science is known as **Orthomolecular Medicine**. This term was coined by the double Nobel Laureate Linus Pauling way back in 1968, about 40 years back. Since then, this medical science has grown over the years and evolved over many generations of technical refinement and has reached the point where it can be used to treat many chronic ailments and also repair and rebuild damaged organs of the body with a fair degree of accuracy. For **Intracellular Nutrition** to work effectively, we must have at our command two technologies; one to alter cell membrane permeability and the other, a carrier mechanism to carry nutrition to the center of the cell where it is really required. It is today possible to improve the Ejection Fraction

(LVEF) of the Heart for instance. This can therefore be called a drugless therapy as it uses only nutrition.²

Prolonged use of multivitamin and mineral supplements, without proper and periodic nutritional analysis of the blood, can be quite dangerous. Serum levels are no indication of intracellular levels. This makes it harder to monitor nutritional levels with some accuracy.

For example, calcium taken continuously for years altogether, because you were told it prevents osteoporosis, can result in formation of kidney stones and will result in calcium deposits in various tissues of the body can also cause joint pain and osteoarthritis. This problem is enhanced by taking calcium in isolation without the other supporting nutrients needed for bone formation like: magnesium, zinc, boron, phosphorus, manganese, copper, vitamin K, D and vitamin C in correct proportions.³

The following minerals and vitamins are required in organic form in these specific ratios to help arrest and reverse osteoporosis.

Minerals	# Elemental Weight
Calcium	500 mg
Magnesium	700 mg
Zinc	60 mg
Boron	6 mg
Manganese	5 mg
Copper	1 mg
Vitamin – K	100 mcg
* Vitamin – C	500 to 1000 mg
** Vitamin – D	200 to 400 IUs
## Progesterone (for females) Testosterone (for males)	25 to 50 mg / day
* Do not use ascorbic acid. Use ascorbates – like calcium ascorbate, magnesium ascorbate, etc. ** Not recommended to be given in places with adequate sunshine as vitamin D can cause toxicity. Excessive vitamin D causes calcium to deposit in various organs / tissues of the body and can lead to osteoarthritis.	# Elemental Weight is that part of the weight which corresponds to the actual weight of the concerned mineral used in the formulation. For example: 1200 mg of calcium carbonate has only 40% calcium or 480 mg of elemental calcium in it. mg given above are not doses, but just indicate ratios for bone building. ## Use only topical Bioidentical Progesterone / Testosterone.

Prolonged use of vitamin D can result in toxicity, body aches and pains and can mimic the condition of osteoporosis.

One of the biggest deficiencies that we have begun seeing during the last decade is magnesium. Deficiency in magnesium at tissue, intracellular levels and in the bones is at the root cause of high cholesterol, high blood pressure, all types of cardiovascular diseases, diabetes and osteoporosis. calcium in the absence of adequate levels of magnesium and other nutrients cannot arrest or reverse osteoporosis.

Calcium, taken in isolation, results in brittle bones, which can break easily on impact. When magnesium enters the lattice structure, it results in flexible bones that do not break easily on impact.⁴ Boron imparts strength and hardness to the bones.⁵

*Gone are the days, when Calcium deficiency used to cause osteoporosis.
Today, we need to preach that magnesium deficiency causes osteoporosis.*⁶

Now a days, the soil and consequently the food we eat is highly deficient in magnesium which is the leading cause of osteoporosis and bone fractures. Synthetic fertilizers used replenish only nitrogen, phosphorous and potassium (NPK). So magnesium levels steadily go down with each crop cycle. In addition, potassium is an antagonist to magnesium. So the large amounts of potassium in our fertilizers only results in food with lower levels of magnesium than ever before.

Magnesium deficiency is common all over the world today due to our food growing techniques and is further compounded by our food processing techniques and our choice of diet. Our grains are polished to remove the outer fibrous coating which contains magnesium, zinc and other minerals besides vitamins. Consumption of refined sugar and alcohol increase urinary excretion of magnesium, leading to magnesium deficiency. High levels of stress in the work place and higher sound levels in our environment also result in higher excretion of magnesium.

Bone Density Tests are not a measure of bone flexibility or strength or brittleness.⁷

Correcting magnesium deficiency is not an easy task. Approximately 65% of the body's magnesium is stored in the bones, 25% in the muscles and the balance is in the tissues, organs and fluids of the body. Since replacing nutrition in the bones and rebuilding bones is a very slow process in the body, it could take 6 months to well over a year to replenish depleted magnesium levels in the body even when therapeutic doses are being correctly administered.

Diagnosing magnesium deficiency is extremely difficult. Here are some of the symptoms of magnesium deficiency:

1. Muscle weakness, tremor or spasm, decreased reflexes, twitches, convulsion
2. Heart arrhythmia, irregular contraction or increased heart rate – tachycardia
3. Heart Valve calcification
4. Calcification of arteries
5. Mitral valve prolapse
6. Softening and weakening of bone
7. Imbalanced blood sugar levels
8. Headaches - Migraines
9. Elevated blood pressure - hypertension
10. Elevated fats in the bloodstream – hyperlipidemia
11. Depression
12. Seizures
13. Nausea
14. Vomiting
15. Lack of appetite
16. Fatigue
17. Irritability
18. Insomnia
19. Poor memory
20. Allergies, chemical sensitivities
21. Anxiety and Psychiatric Disorders
22. Attention Deficit Disorders

23. Painful periods
24. Asthmatic attacks
25. Fibromyalgia
26. Hearing Loss
27. Confusion
28. Incontinence in elderly people
29. Bedwetting in children and elderly people
30. Constipation
31. Heel Spurs and Bone spurs in the neck area
32. Osteophytes
33. Stiffness in the shoulder and neck area
34. Bradycardia and / or falling heart rate on exercising

Calcium causes contraction and magnesium brings about relaxation of muscles. Poor magnesium to calcium ratio in the human body can also result in inability to walk which is quite often seen in elderly people.

Poor memory and confusion can often be misdiagnosed in the elderly as Alzheimer's disease. Muscle weakness, tremors and poor reflexes are often diagnosed as Parkinson's disease. It would be worthwhile to try intracellular magnesium therapy before arriving at these diagnoses.

Magnesium taken together with vitamin B₁₂, may help prevent calcium oxalate kidney stones. It helps prevent dizziness. Magnesium can help prevent and reverse the calcification of soft tissue and help prevent and reverse calcification of arteries and reduce cholesterol levels.

Magnesium can be used to tone the heart muscle, improve its Ejection Fraction (LVEF), reduce Left Ventricle Hypertrophy (heart enlargement) and for controlling blood pressure.

Magnesium is needed for cellular metabolism and the production of energy through its help with enzyme activity. This can once again explain poor energy levels in the elderly.

Serum levels of magnesium are no indication of intracellular levels or magnesium stored in the bones of the body. Detecting magnesium deficiency at the pathological level poses a still greater challenge.

To test for magnesium deficiency, a procedure called an intracellular (mononuclear cell) magnesium screen should be performed. This is a more sensitive test than the typical serum magnesium screen, and can detect a deficiency inside the cell (where Magnesium is really required) with much more accuracy. This test is also called Erythrocyte Magnesium.

The Standard Reference Range for Serum Magnesium used by allopathic medicine to detect a state of disease is 1.8 to 3.0 mg/dL. **Optimum value of serum magnesium** in healthy individuals, desiring perfect health, should be maintained at typically **2.4 to 2.8 mg/dL**. To evaluate levels of Magnesium properly retained in the body it is prudent to draw a blood sample for serum testing of magnesium 5 to 7 days after discontinuing all magnesium and calcium supplementation.⁸

Clinical observations show that individuals with serum magnesium levels of 1.8 to 2.2 mg/dL tend to exhibit high blood pressure, tachycardia, other cardiac problems and diabetes.

Correcting these nutritional deficiencies with therapeutic doses of supplements designed to work at intracellular levels will lead to long healthy life free of chronic diseases.

Severe malnutrition is spreading nationwide at a very rapid pace with osteoporosis now affecting even a significant number of young teenagers. This was unheard of a few years back.

It is time for the Ministry of Health, Ministry of Agriculture, Ministry of Women, Child and Family Welfare and the FDA to wake up to this grave health hazard of pandemic proportions which has affected the life of billions of people nationwide and worldwide. Steps need to be taken to inform the consumer about the nutritional values of the produce and food they purchase and to encourage farmers to grow nutritious crops instead of just organic food.

Very Important Note for Mineral / Vitamin Dietary Supplement Users:

Do not use low cost mineral / vitamin dietary supplements available at your local health food store or those produced by pharmaceutical companies. These are low dose prophylactic preparations. You need prescription strength mineral / vitamin supplements, Organic in nature and fortified with other balancing nutrients which are equipped to deliver nutrition at intracellular levels, if one is to experience their therapeutic effect.

Low cost dietary supplements generally available at your local chemist/ health food store are low dose types, invariably have poor absorption and retention in the body and have exceedingly poor chances of reaching intracellular levels where the nutrition is really required.

Health centers where you can get information on Orthomolecular / Intracellular Nutrition and osteoporosis:

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Map: www.space-age.com/Mumbai-Clinic-Map.pdf

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Map: www.space-age.com/Mumbai-Clinic-Map.pdf

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(Info: <http://www.space-age.com/conference-tnau.html>
or directly download the paper on Nutritional Farming from:
<http://www.space-age.com/nutri-farm-seminar.doc>
or
for Power Point Presentation go to:
www.space-age.com/nutri-farm.ppt
For abstract go to:
www.space-age.com/nutri-farm-abstract.doc
2. For more up to date information on need for Intracellular / Orthomolecular Nutrition please download “Do I Need To Take Multivitamin / Mineral Supplements? Frequently Asked Questions.” from:
<http://www.space-age.com/Multivitamin-FAQs.doc>
3. For more information please refer my article on Calcium and Osteoporosis which appeared in the My Doctor Magazine November, 2002 which can be download from:
http://www.space-age.com/calcium_osteoporosis.pdf
The Elemental Weights given in this article in milligrams are given only for the purpose of establishing the ratios between the various Minerals and Vitamins required for enhancing bone formation / reversing Osteoporosis and should not be confused with doses recommended for daily oral intake in the form of supplements.
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8. For Modern Methods of Reading and Analyzing Pathological Reports For Optimum Health please download “Standard Reference Ranges in Pathological Reports Are Antiquated” from:
<http://www.space-age.com/pathology.pdf>

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